

Abstract of the Disclosure

A wavelength division multiplex transmission system includes $N/2$ (N is the maximum number of wavelengths to be used) CW light generating sections, $N/2$ switching circuit sections, and a wavelength multiplexing section. Each CW light generating section generates continuous wave light having the same wavelength as one of input even- and odd-numbered wavelengths used as operating wavelengths and outputs continuous wave light having a level twice as high as an input level of a light signal having an operating wavelength. Each switching circuit section selects one of an input wavelength and continuous wave light output from the corresponding CW light generating section. The wavelength multiplexing section outputs the other light signal of input light signals having even- and odd-numbered wavelengths and a light signal having different wavelength which is output from the switching circuit section upon wavelength multiplexing.